



# Naval Medical Research and Development

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## News Releases

### R&D Chronicles: Give Me (Fallout) Shelter: A Look Back at the Navy's Protective Shelter Study

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By André B. Sobocinski, BUMED Historian



On February 17, 1962, 96 Seaman Apprentices marched into the Navy's experimental fallout shelter as part of a two-week study of habitability. Here we see research subjects busying themselves with some of the shelter's recreations. Author's collection.

*"It was a funny feeling knowing that we would be in there for over a week."*

~Unnamed Research Subject, Bethesda Protective Shelter Study, March 1961

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On the Walter Reed National Military Medical Center campus in Bethesda, Maryland, there is a relic from the Cold War that few people have ever seen. Constructed six feet below the surface this fallout shelter is a palpable reminder of the nation's fear of nuclear attack. In 1962, it would also be the setting for a unique study on confinement and habitability.

In the early 1960s, as tensions grew between the U.S. and the Soviet Union, President Kennedy publicly advocated for the construction of community shelters leading to what some have called a "fallout shelter craze."

Overseeing the nationwide fallout shelter program was the Department of Defense's newest component, the Civil Defense Office (CDO). Established in 1961, the CDO's mission was to prepare the public in case of nuclear fallout. In conjunction with the Army's Corps of Engineers and the Navy's Bureau of Yards and Docks (later known as Navy Facilities Command), the CDO surveyed existing public shelters, ensuring they were up to standards, stocking them with requisite food and supplies, and marking them with those ever-distinctive yellow and black signs. In 1962 alone, the CDO procured 1.4 million of these aluminum fallout shelter signs.

As part of this effort of preparedness, in January 1962 the Bureau of Yards and Docks constructed an "experimental" shelter on what was then the home of the National Naval Medical Center (NNMC) and the Naval Medical Research Institute (NMRI) in Bethesda, Maryland. Measuring 25 feet wide x 48 feet long x 12 feet high, this shelter was in essence an underground Quonset hut covered in 10-gauge galvanized corrugated steel and reinforced by concrete. It was designed to withstand a blast of 75 psi (pounds per square inch), and be resistant to fire, radiation and radioactive fallout.

Beginning in February 1962 the Bureau of Yards and Docks, NMRI, and the Naval Research Laboratory, collaborated on a two-week study to evaluate the habitability of similar shelters. Research subjects were selected from a pool of naval seaman apprentices who had just graduated basic training at the Naval Training Center Great Lakes, Illinois. Of the 283 volunteers, 150 were selected for physical and psychiatric examinations; 96 of these—mostly teenagers—would be chosen.

The research subjects entered the shelter on February 17 and were joined by a medical officer, two hospital corpsmen and an engineer who would act as monitors.

For two weeks (the estimated time radioactive fallout would prove the greatest threat) the subjects were confined under the watchful eye of a camera that transmitted to a video monitor at NMRI.

Inside, subjects would have access to water supplied by a 4,000-gallon storage tank; six chemical toilets partitioned off by canvas curtains and 50 bunks. Positioned in two longitudinal rows running five deep and stacked five high, the bunks took up half the livable shelter space. It was reported that each subject had about one-tenth of the livable space available aboard a submarine. And like submarines, each participant was expected to "hot-bunk," i.e., sharing their beds in shifts.

Naval Medical Research Unit – Dayton  
Researcher Highlighted by Office of the  
Secretary of Defense for Women's  
History Month.

Naval Medical Research Center  
Researcher Travels to Hungary for  
Annual NATO Chess Tournament

The DoD Birth and Infant Health  
Registry: Every Month is the Month of  
the Military Child

Power was supplied by a 10 kilowatt diesel generator located outside the shelter; generator fumes were vented through a 2.5inch steel pipe. Although shelter was equipped with a ventilation system designed to remove atomic, biological and chemical agents, there was no artificial heat.

Hygiene and sanitation were certainly issues. The shelter was supplied with 5,600 packets of wet napkins (water was not permitted for washing), six tubes of toothpaste, 25 packages of paper towels and 13 gallons of chemical for the six toilets. Subjects were only permitted the clothes they wore going in the shelter and one change of socks.

Each subject was expected to live on 2,000 calories a day provided by standard shelter rations of enriched crackers, dried soup, chocolate, coffee, tea, powdered milk, jam, and peanut butter.

To offset the tensions likely to arise under these conditions, the shelter was supplied with games (playing cards, pinochle decks, dominoes, checkers, Scrabble, cribbage boards, Bingo cards and four chess sets) as well as reading material (200 magazines, and 200 paperback books). Subjects also had access to paper pads, pens, pencils; and each would be encouraged to keep their own diaries for the length of stay. Smoking, then ever present at naval facilities, was allowed. Research subjects were permitted to bring their own cigarettes and matches; additional packages of cigarettes were supplied when needed.

Despite boredom and cramped conditions most would later report that morale remained high throughout the trial. The biggest complaints were the close confinement, lack of appetizing food and the noise levels due to snoring (which was reported to reach up to 70-78 decibels.) Respiratory infections and colds would also prove to be an issue during the trial.

The subjects exited the shelter on March 3; most appearing joyous, if not a little shaky and sensitive to the light after their captivity. They were read a capsule news report of what they had missed for two weeks underground and each were given certificates as members of the “Shelter Club.” The participants then took part in debriefing sessions at NMRI.

In the end, the trial was deemed a success and supported the idea that people could live in a fallout shelter for an extended period of time.

The experimental shelter would again be used in August 1962 for a two-week trial to test hot weather endurance and in 1963 when 33 officers based at the Medical Center were confined “without warning.”

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